

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A crosslinked non-diene containing polymer blend for fabricating monolayer films or a layer within a multilayer film, the polymer blend comprising:

a blend composed solely of a first component and a second component, the a-first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the blend;

the a-second component present in an amount by weight of the blend from about 45% to about 1 % and is-selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers; and,

the blend when fabricated into a film having a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 2 (previously presented): The blend of claim 1 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefin having from about 2 to about 17 carbons.

Claim 3 (previously presented): The blend of claim 2 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 4 (previously presented): The blend of claim 2 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 5 (previously presented): The blend of claim 4 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a

second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 6 (previously presented): The blend of claim 4 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 7 (previously presented): The blend of claim 4 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5°C.

Claim 8 (previously presented): The blend of claim 4 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 9 (previously presented): The blend of claim 1 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 10 (previously presented): The blend of claim 9 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 11 (previously presented): The blend of claim 1 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 12 (previously presented): The blend of claim 11 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 13 (previously presented): The blend of claim 1 wherein the α -olefin has from 3 to 17 carbons.

Claim 14 (previously presented): The blend of claim 1 wherein the α -olefin has from 4 to 8 carbons.

Claim 15 (previously presented): The blend of claim 14 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 16 (original): The blend of claim 1 wherein the blend is subjected to electron beam radiation in a dosage amount from about 20 kGy to about 200 kGy.

Claim 17 (previously presented): The blend of claim 1 wherein the internal haze when measured in accordance with ASTM D1003 is less than 15%.

Claim 18 (currently amended): A crosslinked non-diene containing polymer blend for fabricating monolayer films or a layer within a multilayer film comprising:

a blend composed solely of a first component and a second component, the a-first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the blend;

the a-second component present in an amount by weight of the blend from about 45% to about 1% and is-selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers; and,

wherein the blend is subjected to electron beam radiation in a dosage amount from about 20 kGy to about 200 kGy.

Claim 19 (previously presented): The blend of claim 18 wherein the blend when fabricated into a film having a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 20 (previously presented): The blend of claim 18 wherein the blend is exposed to an oxygen partial pressure less than ambient conditions when exposed to the electron beam radiation.

Claim 21 (original): The blend of claim 18 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefins having from about 2 to about 17 carbons.

Claim 22 (original): The blend of claim 18 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 23 (original): The blend of claim 18 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 24 (original): The blend of claim 23 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 25 (original): The blend of claim 23 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 26 (original): The blend of claim 23 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5 °C.

Claim 27 (original): The blend of claim 23 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 28 (previously presented): The blend of claim 18 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 29 (previously presented): The blend of claim 28 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 30 (previously presented): The blend of claim 18 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 31 (previously presented): The blend of claim 30 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 32 (previously presented): The blend of claim 18 wherein the α -olefin has from 3 to 17 carbons.

Claim 33 (original): The blend of claim 18 wherein the α -olefin has from 4 to 8 carbons.

Claim 34 (original): The blend of claim 32 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 35 (currently amended): A crosslinked non-diene containing monolayer film comprising:

a blend composed solely of a first component and a second component, the a-first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the blend;

the a-second component present in an amount by weight of the blend from about 45% to about 1 % and ~~is~~ selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers, (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers; and,

the film has a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 36 (original): The film of claim 35 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefins having from about 2 to about 17 carbons.

Claim 37 (original): The film of claim 36 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 38 (original): The film of claim 36 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 39 (original): The film of claim 38 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 40 (original): The film of claim 38 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 41 (original): The film of claim 38 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5 °C.

Claim 42 (original): The film of claim 38 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 43 (previously presented): The film of claim 35 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 44 (previously presented): The film of claim 43 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 45 (previously presented): The film of claim 35 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 46 (previously presented): The film of claim 45 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 47 (previously presented): The film of claim 35 wherein the α -olefin has from 3 to 17 carbons.

Claim 48 (original): The film of claim 35 wherein the α -olefin has from 4 to 8 carbons.

Claim 49 (original): The film of claim 48 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 50 (original): The film of claim 35 wherein the blend is subjected to electron beam radiation in a dosage amount from about 20 kGy to about 200 kGy.

Claim 51 (original): The film of claim 35 wherein the internal haze when measured in accordance with ASTM D 1003 is less than 15%.

Claim 52 (currently amended) A crosslinked non-diene containing monolayer film comprising:

a blend composed solely of a first component and a second component, the a-first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the film;

the a-second component present in an amount by weight of the film from about 45% to about 1 % and is-selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers; and,

wherein the film is subjected to electron beam radiation in a dosage amount from about 20 kGy to about 200 kGy, and is capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 53 (previously presented): The film of claim 52 has a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 54 (original): The film of claim, 52 wherein the film is exposed to a oxygen partial pressure less than ambient conditions when exposed to the electron beam radiation.

Claim 55 (original): The film of claim 52 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefins having from about 2 to about 17 carbons.

Claim 56 (original): The film of claim 52 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 57 (original): The film of claim 52 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 58 (original): The film of claim 57 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 59 (original): The film of claim 57 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 60 (original): The film of claim 57 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5 °C.

Claim 61 (original): The film of claim 57 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 62 (previously presented): The film of claim 52 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 63 (previously presented): The film of claim 52 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 64 (previously presented): The film of claim 52 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 65 (previously presented): The film of claim 64 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 66 (previously presented): The film of claim 52 wherein the α -olefin has from 3 to 17 carbons.

Claim 67 (original): The film of claim 52 wherein the α -olefin has from 4 to 8 carbons.

Claim 68 (original): The film of claim 66 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 69 (currently amended): A method for preparing a non-oriented, non-diene and non-PVC containing film comprising the steps of:

providing a first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the blend;

providing a second component in an amount by weight of the blend from about 45% to about 1% and is selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers;

mixing the first component and the second component to define a blend; and

crosslinking a portion of the blend; and

processing the blend into a monolayer film having a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D 1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 70 (previously presented): The method of claim 69 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefins having from about 2 to about 17 carbons.

Claim 71 (original): The blend of claim 69 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 72 (previously presented): The method of claim 69 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 73 (previously presented): The method of claim 69 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a

second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 74 (previously presented): The method of claim 72 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 75 (previously presented): The method of claim 72 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5°C.

Claim 76 (previously presented): The method of claim 72 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 77 (previously presented): The method of claim 69 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 78 (previously presented): The method of claim 77 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 79 (previously presented): The method of claim 69 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 80 (previously presented): The method of claim 79 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 81 (previously presented): The method of claim 69 wherein the α -olefin has from 3 to 17 carbons.

Claim 82 (previously presented): The method of claim 69 wherein the α -olefin has from 4 to 8 carbons.

Claim 83 (previously presented): The method of claim 82 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 84 (currently amended): The method of claim 69 wherein the ~~step of processing the blend includes the step of crosslinking further comprises~~ exposing the blend to electron beam radiation in a dosage amount from about 20 KGy to about 200 kGy.

Claim 85 (previously presented): The method of claim 69 wherein the step of processing the blend into a monolayer film comprises the step of extruding the blend.

Claim 86 (currently amended): A method for fabricating a non-diene monolayer film or a layer within a multilayer film comprising:

providing a first component selected from the group consisting of: (1) ethylene and α -olefin copolymers having a density of less than about 0.915 g/cc, and (2) ionomers, the first component being present in an amount from about 99% to about 55% by weight of the blend;

providing a second component in an amount by weight of the blend from about 45% to about 1 % and is selected from the group consisting of: (1) propylene containing polymers, (2) polybutene polymers, (3) polymethylpentene polymers (4) cyclic olefin containing polymers, and (5) bridged polycyclic hydrocarbon containing polymers;

mixing the first component with the second component to define a blend;

processing the blend into a monolayer film or a layer within a multiple layered film to define a structure; and,

crosslinking exposing the structure with to electron beam radiation in a dosage amount from about 20 kGy to about 200 kGy.

Claim 87 (previously presented): The method of claim 86 wherein the film has a modulus of elasticity when measured in accordance with ASTM D882 of less than about 60,000 psi, an internal haze when measured in accordance with ASTM D1003 of less than about 25%, an internal adhesion ranking of greater than about 2, a sample creep at 120°C under 27 psi loading of less than or equal to 150% for a film having a thickness of from about 5 mils to about 15 mils, and the film being capable of being heat sealed into a container having seals wherein the seals remain intact when the container is autoclaved at 121°C for one hour.

Claim 88 (currently amended): The method of claim 86 wherein the crosslinking step of exposing the film includes the step of reducing an oxygen partial pressure to less than ambient conditions.

Claim 89 (original): The method of claim 86 wherein the propylene containing polymer is selected from the group consisting of homopolymers of polypropylene, and random and block

copolymers and random and block terpolymers of propylene with one or more comonomers selected from α -olefins having from about 2 to about 17 carbons.

Claim 90 (original): The method of claim 86 wherein the second component is a propylene and ethylene copolymer having an ethylene content of from 1-6% by weight of the copolymer.

Claim 91 (original): The method of claim 86 wherein the second component is a blend of a first propylene containing polymer and a second propylene containing polymer.

Claim 92 (original): The method of claim 91 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 3 times greater than the second melt flow rate.

Claim 93 (original): The method of claim 91 wherein the first propylene containing polymer has a first melt flow rate and the second propylene containing polymer has a second melt flow rate wherein the first melt flow rate is about 5 times greater than the second melt flow rate.

Claim 94 (original): The method of claim 91 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 5°C.

Claim 95 (original): The method of claim 91 wherein the first propylene containing polymer has a first melting point temperature and the second propylene containing polymer has a second melting point temperature wherein the first melting point temperature is higher than the second melting point temperature by at least about 10°C.

Claim 96 (previously presented): The method of claim 86 wherein the cyclic olefin has from 5 to about 10 carbons in the ring.

Claim 97 (previously presented): The method of claim 96 wherein the cyclic olefin is selected from the group consisting of substituted and unsubstituted cyclopentene, cyclopentadiene, cyclohexene, cyclohexadiene, cycloheptene, cycloheptadiene, cyclooctene, and cyclooctadiene.

Claim 98 (previously presented): The method of claim 86 wherein the bridged polycyclic hydrocarbon has at least 7 carbons.

Claim 99 (previously presented): The method of claim 98 wherein the bridged polycyclic hydrocarbon is selected from the group consisting of polycyclic hydrocarbons having at least 7 carbons.

Claim 100 (previously presented): The method of claim 86 wherein the α -olefin has from 3 to 17 carbons.

Claim 101 (original): The method of claim 86 wherein the α -olefin has from 4 to 8 carbons.

Claim 102 (original): The method of claim 101 wherein the ethylene and α -olefin copolymer is obtained using a single site catalyst.

Claim 103 (original): The method of claim 86 wherein the step of processing the blend includes the step of extruding the blend into a film or a layer within a multiple layered film.